

CLAIM LISTING

1. (Cancelled)

2. **(Currently amended)** A method for treating a disorder, disease or condition benefiting from an increase in mitochondrial respiration; wherein the disorder, disease or condition is selected from the group consisting of obesity, atherosclerosis, hypertension, diabetes, type 2 diabetes, impaired glucose tolerance, dyslipidemia, coronary heart disease, gallbladder disease, osteoarthritis, ~~and cancer~~ **endometrial cancer, breast cancer, prostate cancer, and colon cancer,** comprising administering to a patient in need thereof a therapeutically effective amount of a compound having a slope calculated from the equation

$$X^n = (Y_2 - Y_0) / (Y_1 - Y_0)$$

wherein

Y_0 is the degree of stimulation measured as counts per minute (cpm) of radioactivity in control samples without added test compound,

and

Y_1 is the degree of stimulation measured as cpm of radioactivity with added test compound in a concentration of $EC_{50}/2$,

Y_2 is the degree of stimulation measured as cpm of radioactivity with added test compound in concentration of $2 \times EC_{50}$, and

X is 2,

or

Y_1 is the degree of stimulation measured as cpm of radioactivity with added test compound in a concentration of $EC_{50}/3$,

Y_2 is the degree of stimulation measured as cpm of radioactivity with added test compound in concentration of $3 \times EC_{50}$, and

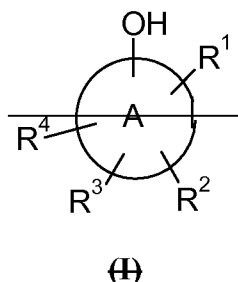
X is 3,

and

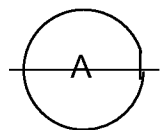
n is the slope,

wherein,

the value of the slope n calculated for the compound is less than the value of the slope n calculated for carbonylcyanide *p*-trifluoromethoxy-phenylhydrazone as test compound; and wherein the compound is ~~of formula (I)~~



wherein



is an aryl, or heteroaryl,

~~R^1 is halogen, CHO , CO_2R^{32} , COR^{32} , SO_3H , CCl_3 , CF_3 , NO , NO_2 , CN , $\text{CH}=\text{CH}-R^{33}$, $\text{C}(\text{R}^{33})(\text{R}^{34})$, SOR^{32} , SO_2R^{32} or aryl substituted with from one to five substituents selected from halogen, CHO , CO_2R^{32} , COR^{32} , SO_3H , CCl_3 , CF_3 , NO , NO_2 , CN , $\text{CH}=\text{CH}-R^{33}$, $\text{CH}(\text{R}^{33})(\text{R}^{34})$, SOR^{32} , or SO_2R^{32} , wherein~~

~~R^{32} is hydrogen, alkyl, aryl, or heteroaryl; and~~

~~R^{33} and R^{34} independently of each other are halogen, CHO , CO_2R^{35} , COR^{35} , SO_3H , CCl_3 , CF_3 , NO , NO_2 , CN , SOR^{35} , SO_2R^{35} , wherein~~

~~— R^{35} is hydrogen or alkyl;~~

~~and is attached on a carbon atom adjacent to the carbon atom to which the hydroxy group is attached;~~

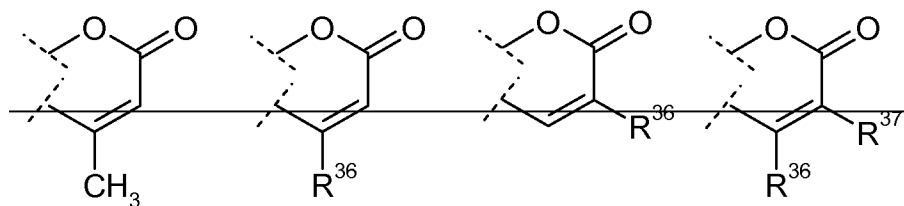
~~R^2 is $\text{C}(\text{X})_3$, NO_2 , alkyl, nitro, halogen, alkyl-O-, alkyl-C(O)-, alkyl-C(O)-O-, or aryl, wherein~~

~~X is halogen; and~~

~~R^3 and R^4 independently of each other are hydrogen, alkyl, nitro, halogen, alkyl-O-, alkyl-C(O)-, alkyl-C(O)-O-, or aryl;~~

~~or~~

~~R^2 and R^3 together form one of the diradicals~~



5

wherein

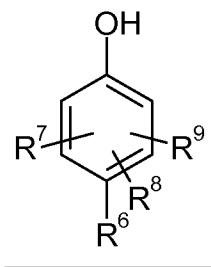
~~R³⁶ and R³⁷, independently of each other, are hydrogen, halogen, C(X)₃, nitro, cyano, alkyl, alkyl-O-, alkyl-C(O)-, or aryl, wherein~~

~~X is halogen;~~

~~and wherein the two valence atoms in the diradical are attached to adjacent carbon atoms; and~~

~~R⁴ is hydrogen, halogen, C(X)₃, nitro, cyano, alkyl, alkyl-O-, alkyl-C(O)-, or aryl;~~

of formula (III)



(III)

wherein

R⁶ is halogen, -CHO, -CO₂R⁴³, -COR⁴³, -SO₃H, -CCl₃, -CF₃, -CN, -CH=CH-R⁴⁴, -C(R⁴⁴)(R⁴⁵), -SOR⁴³, -SO₂R⁴³ or aryl substituted with from one to five substituents selected from halogen, -CHO, -CO₂R⁴³, -COR⁴³, -SO₃H, -CCl₃, -CF₃, -NO, -NO₂, -CN, -CH=CH-R⁴⁴, -CH(R⁴⁴)(R⁴⁵), -SOR⁴³, or -SO₂R⁴³, wherein

R⁴³ is hydrogen or alkyl; and

R⁴⁴ and R⁴⁵ independently of each other are halogen, -CHO, -CO₂R⁴⁶, -COR⁴⁶, -SO₃H, -CCl₃, -CF₃, -NO, -NO₂, -CN, -SOR⁴⁶, -SO₂R⁴⁶, wherein

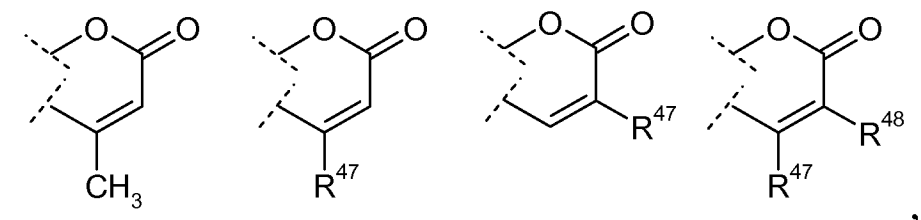
R⁴⁶ is hydrogen, alkyl, or aryl;

R⁷ is alkyl, nitro, halogen, alkyl-O-, alkyl-C(O)-, or alkyl-C(O)-O-; and

R⁸ and R⁹ independently of each other are hydrogen, alkyl, nitro, halogen, alkyl-O-, alkyl-C(O)-, alkyl-C(O)-O-, or aryl;

or

R⁷ and R⁸ together form one of the diradicals



wherein R⁴⁷ and R⁴⁸, independently of each other, are hydrogen, alkyl, nitro, halogen, alkyl-O-, alkyl-C(O)-, or alkyl-C(O)-O-,

wherein the two valence atoms in the diradical are attached to adjacent carbon atoms in the phenyl ring; and

R⁹ is hydrogen, alkyl, nitro, halogen, alkyl-O-, or alkyl-C(O)-;

or a pharmaceutically acceptable salt, or solvate ~~or prodrug~~ thereof.

3. (Cancelled)
4. (Cancelled)
5. (Previously presented) A method according to claim 2, wherein the condition is obesity.
6. (Previously presented) A method according to claim 2, wherein the disease is type 2 diabetes.
7. (Original) A method according to claim 6, wherein the patient in need thereof is obese.
8. **(Withdrawn)** A method according to claim 4, wherein the disease is dyslipidemia.
9. **(Withdrawn)** A method according to claim 8, wherein the patient in need thereof is obese.
10. (Cancelled)

11. **(Cancelled)**

12. **(Cancelled)**

13. **(Cancelled)**

14. (Previously presented) A method according to claim 2, wherein the compound is a chemical uncoupler.

15. (Previously presented) A method according to claim 2, wherein the compound is a cation.

16. (Cancelled)

17. **(Currently amended)** A method according to claim 2, wherein the compound is ~~selected from the group consisting of:~~

~~4-methoxy-2-nitrophenol,~~

~~4-hydroxy-3-nitroacetophenone, and~~

~~7-hydroxy-4-methyl-8-nitro-chromen-2-one.~~

18. (Cancelled)

19. (Cancelled)

20. **(Cancelled)**

21.- 43. (Cancelled)

44.- 49. **(Cancelled)**